

Amendments to the Claims

This Listing of Claims replaces all prior versions, and listings, of claims in this application.

1-44 (Cancelled).

45. (New) A system for soldering and emitting inert gas, comprising:

a soldering tip;

a heater cartridge made of a conductive pipe, and including the soldering tip at its top end, and annular terminals at a base end thereof, the terminals being electrically connected to a heater part within the heater cartridge;

a gas injector adapted to provide gas through an input opening of the heater cartridge;

an exhaust pipe adapted to enclose at least a portion of the heater cartridge to provide a gas passage; and

a handle base adapted to receive the base end of the heater cartridge and including a grounding terminal, a first terminal, and a second terminal, where the grounding terminal extends toward the top end and is electrically connected to the conductive pipe, a part of the grounding terminal is pushed and widened by the inserted heater cartridge.

46. (New) The system according to claim 45, further including a mounting part coupled to the heating cartridge between an input opening and an output opening, where the mounting part is adapted to couple to the exhaust pipe.

47. (New) The system according to claim 46, further including a box nut, where the exhaust pipe includes an inner pipe with a flange adapted to receive the heater cartridge, and the box nut is movably fitted over an outer periphery of the inner pipe and coupled with the mounting part to couple the inner pipe with the mounting part.

48. (New) The system according to claim 45, where the soldering tip is adapted to receive the heating part at least partially within the soldering tip.

49. (New) The system according to claim 45, further including a box nut and the exhaust pipe has a base end formed with a flange part oriented diametrically outward, where the box nut engages with the flange part to couple the exhaust pipe to the mounting part.

50. (New) The system according to claim 45, where the exhaust pipe includes an outer pipe and the soldering tip projects through the outer pipe forming an outlet between the soldering tip and the outer pipe.

51. (New) The system according to claim 45, where the gas injector has a gas chamber adapted to receive the heater cartridge so that the input opening is within the gas chamber, where the gas injector further has a mounting opening that provides a passage between a gas introducing member and the gas chamber so that gas can be provided through the input opening of the heater cartridge; and where the gas chamber is between sealing members so that gas can only pass through the input opening of the heater cartridge.

52. (New) The system according to claim 45, further including a temperature sensor disposed within the soldering tip to measure the temperature of the soldering tip.

53. (New) The system according to claim 45, where the gas injector is mounted to the handle base.

54. (New) The system according to claim 45, where a part of the grounding terminal in its circumferential direction is notched.

55. (New) The system according to claim 45, where the first terminal and the second terminal are embedded in a nonconductive part disposed in the handle base.

56. (New) The system according to claim 55, where the first terminal and the second terminal are plate materials whose top ends are bent diametrically inward, where one of the plate materials is shorter than the other plate material.

57. (New) The system according to claim 45, where the first terminal and the second terminal are plates whose top ends are bent diametrically inward, and where one of the plates is shorter than the other plate.